

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KLAUS TEMPLER,
GÜNTHER JACOBS, and
WOLFGANG TEGETHOFF

Appeal No. 1997-0229
Application No. 08/039,260

ON BRIEF

Before WARREN, KRATZ, and DELMENDO, Administrative Patent Judges.

DELMENDO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 11 through 14 and 16, which are all of the claims pending in the application. Claim 15 was canceled in the "Amendment under 37

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CFR § 1.116" filed March 13, 1995 (Paper No. 14), which the examiner entered (advisory action of April 11, 1995, Paper No. 15).

Claim 11 is illustrative of the claims on appeal and is reproduced below:

11. The method of recovering raw material for the manufacture of paper, pulp board or cardboard from the residual waste water slurry of a mechanical clarification or separation apparatus by separating said slurry into a fiber-rich portion and a filler-rich portion, which comprises the sequential steps of

a) adjusting the solids content of said waste water slurry to a value of 1 to 5% by weight by adding mechanically clarified waste water to form a homogeneous suspension,

b) separating the coarse contaminant component of said suspension by passing it through a 1 to 2 mm mesh screen,

c) separating the black particle components of said coarse contaminant component having a particle size greater than 10 micrometers by centrifugation in a hydrocyclone or in a plurality of hydrocyclones connected in series or in parallel, said hydrocyclones having a nominal diameter of 10 to 100 mm, and accept nozzle diameter of 7 to 14 mm and a reject nozzle diameter of 2 to 8 mm, the input pressure on the inlet side of said hydrocyclone or hydrocyclones being between 0.5 and 6 bar,

d) fractionally separating the accept component exiting from the hydrocyclone or hydrocyclones into a fiber component, an agglomerate component and a

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filler and pigment component, by passing the accept component through an 80 to 300 μm mesh screen for separation of the fiber component and through a screen with a mesh size greater than 45 μm for separation of the agglomerate component, and returning the fiber component and the filler and pigment component into the raw material processing step of the paper, pulp board or cardboard manufacturing process.

The appealed claims, as represented by claim 11, is drawn to a process for the recovery of raw materials for the manufacture of paper, pulp board and cardboard from the residual waste water slurry of a mechanical clarification apparatus or separation apparatus by separating the slurry into a fiber-rich portion and a filler-rich portion (specification, page 1, line 3). In general terms, the process comprises the sequential steps of: (a) adjusting the solids content of the waste water slurry to a value of 1 to 5% by weight by adding mechanically clarified waste water to form a homogeneous suspension; (b) separating the coarse contaminant component of the suspension by passing it through a 1 to 2 mm mesh screen; (c) separating black particle components of the coarse contaminant component having the recited particle sizes by centrifugation in a particular hydrocyclone or in a particular plurality of hydrocyclones

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connected in series or in parallel, wherein the input pressure on the inlet side of the hydrocyclone or hydrocyclones is between 0.5 and 6 bars; and (d) fractionally separating the accept component exiting from the hydrocyclone or hydrocyclones into a fiber component, an agglomerate component and a filler and pigment component, by passing the accept component through an 80 to 300 μm mesh screen for separation of the fiber component and through a screen with a mesh size greater than 45 μm for separation of the agglomerate component, and returning the fiber component and the filler and pigment component into the raw material processing step of the paper, pulp board or cardboard manufacturing process.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Bauman et al. (Bauman) 1975	3,897,301	Jul. 29,
Maxham (Maxham '258) 1991	4,983,258	Jan. 08,
Maxham (Maxham '599) 1992	5,137,599	Aug. 11,

(filing date Sep. 28,
1990)

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The ground of rejection presented for our review in this appeal is as follows:

Claims 11 through 14 and 16 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined teachings of Maxham '599, Maxham '258, and Bauman.

We have carefully reviewed the entire record, including all of the arguments advanced by the examiner and the appellants. Our review leads us to conclude that the applied prior art references do not establish a *prima facie* case of obviousness within the meaning of 35 U.S.C. § 103. Accordingly, we reverse.

OPINION

Under 35 U.S.C. § 103, the examiner carries the initial burden of establishing a *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-87 (Fed. Cir. 1984). As part of meeting this initial burden, the examiner must determine whether the differences between the subject matter of the claims and the prior art "are such that *the subject matter as a whole* would have been obvious at the time the invention was made to a person having ordinary skill

in the art" (emphasis added). 35 U.S.C. § 103(a)(1999);
Graham v. John Deere Co., 383 U.S. 1, 14, 148 USPQ 459, 465
(1966). In ascertaining the differences between the claimed
subject matter as a whole and the prior art, express claim
limitations cannot be ignored. *Bausch & Lomb, Inc. v.*
Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 449, 230 USPQ 416,
420 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987).

With these legal principles in mind, we consider the
examiner's rejection of claims 11 through 14 and 16 under 35
U.S.C. § 103 as unpatentable over the combined teachings of
Maxham '599, Maxham '258, and Bauman. In explaining the
rejection, the examiner states as follows:

The Maxham patents show the process
substantially as claimed. The Maxham patents do not
disclose reuse of the separated filler and fines
component. Instead this component is ultimately
sent to waste disposal. In view of well known
environmental concerns and need to recycle waste,
one of ordinary skill in the art would have sought
alternative means of reusing filler and fines
separated from the useable long fiber component in
Maxham. Bauman et al. provides the necessary
teaching of reusing filler and fines component of
paper mill waste sludge to reduce environmental
pollution and reduce the waste of raw materials used
in paper making. Thus, it would have been obvious
to recycle the separated filler and fines in Maxham

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in accordance with Bauman et al. [Emphasis added;
answer, p. 3.]

In reviewing the applied prior art references, we find that Maxham '599 discloses a method for the separation and recycling of the long fiber pulp fraction contained in pulp and paper mill waste solids (column 3, lines 56-64). In the embodiment closest to the claimed invention (Fig. 2), Maxham '599 teaches that a waste solid slurry is subjected to a basic separation process to remove large and/or heavy debris and directed to a mixing tank **43** where detergents or chelating agents may be added (column 10, lines 18-33). According to Maxham '599, the waste solids is then sent to a hydrocyclone system **48**, where the random debris is separated from the slurry and the rejected debris is sent to a collection basin **22** (column 10, lines 35-39). The reference further discloses that the accepts from the hydrocyclone system, comprising long fibers, fiber fines, and clay, flows into a vibrating screen **51**, where the long fibers are retained and the underflow comprising the fiber fines and clay is directed to collection basin **22**. No mention is made of separating an "agglomerate

component" as defined in the appellants' specification at page 4.

The disclosure of Maxham '258 is similar to Maxham '599, but it is even further removed from the appellants' claimed invention in that the long fibers are separated from the short fibers and clay prior to introduction of the slurry into a hydrocyclone system (Fig. 1). This, of course, is not what is recited in appealed claim 11.

Bauman discloses a process of recovering and treating the filler and fiber fines of sewage from a paper-making machine (column 1, lines 7-9). According to Bauman, the process comprises a preferred step of removing long fibers from the sewage, partially dewatering the resulting mixture, reacting the mixture with a chlorine-bearing chemical, whereby the drainage rate of the fiber fines and fillers is improved, and then using the treated mixture as part of the furnish or feed in a papermaking machine (column 3, lines 24-37).

While the examiner may have established a reasonable factual basis upon which to conclude that one of ordinary skill in the art would have found it *prima facie* obvious to recycle the short fiber and clay component in the Maxham

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patents in view of the teaching found in Bauman, none of the applied prior art references provide any teaching or suggestion to carry out step d) as recited in appealed claim 11. In particular, the examiner has not pointed to, and we do not find, any teaching or suggestion in the applied prior art references regarding the fractional separation of an "agglomerate component" as recited in appealed claim 11. Nor has the examiner explained why the appellants' claim elements pertaining to the physical attributes of the hydrocyclone(s) and the mesh sizes would have been *prima facie* obvious to a person having ordinary skill in the art over the applied prior art references.

On this record, we conclude that the examiner has not established a *prima facie* case of obviousness against appealed claim 11 within the meaning of 35 U.S.C. § 103. Since appealed claims 12 through 14 and 16 all depend from claim 11, it follows then that the subject matter of these claims would also not have been obvious over the applied prior art references. *In re Fine*, 837 F.2d 1071, 1076, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

The examiner's decision is reversed.

REVERSED

CHARLES F. WARREN)	
Administrative Patent Judge)	
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)	
)	
)	BOARD OF PATENT
PETER F. KRATZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
ROMULO H. DELMENDO)	
Administrative Patent Judge)	

RHD/gjh

FULBRIGHT & JAWORSKI, L.L.P.
666 FIFTH AVE.
NEW YORK, NY 10103-3000

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APJ DELMENDO

APJ WARREN

APJ KRATZ

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DECISION: **REVERSED**

Prepared By: GJH

DRAFT TYPED: 25 Apr 01

FINAL TYPED: